

A NEW SPECIES AND NEW VARIETY IN THE
GENUS *Priochilus* BANKS (HYMENOPTERA:
PSAMMOCHARIDAE) WITH A KEY TO
THE SPECIES OF NORTH AMERICA
AND THE ANTILLES.

By R. R. DREISBACH, Midland, Michigan.

The genus *Priochilus* belongs in the subfamily Cryptocheilinae and is tropical or subtropical, as there are no species known to inhabit the continental United States.

Mr. Banks placed *Salius opacifrons* Fox in this genus and made it the genotype. He also placed *Pompilus divisus* Smith, *P. regius* Fab., *P. scrupulus* Fox and *P. sericeifrons* Fox in the same genus and stated that there were other species from South America that would go in the genus. He erected the subgenus *Foximia* to include those species that were almost bare of hair and which have no upright hair on the propodeum, only a few hairs on front coxae, and the stigma longer than in the *Priochilus*. Dr. Bradley, in his paper, questions the position of this genus in the subfamily Cryptocheilinae and rather seems to think it might belong to the Psammocharinae, in view of certain characters common to that subfamily. Dr. Bradley bases his opinion on the fact that there is no transverse sulcus on the second ventrite, although he says there is an indication of one, and also the fact that there are tiny pits on the dorsal surface of the last two femora, although the absence of a pocket in the third discoidal cell and a few spines on the posterior tibiae ally it with the Cryptocheilinae.

In the writer's opinion this genus belongs in the Cryptocheilinae without any doubt and the new species here described makes this more certain, since they have definitely a transverse sulcus on the second ventrite, although not as strong as in other genera. The reasons for locating this genus here are the following additional facts: absence of a pocket in the third discoidal cell, the ridge on posterior surface of last tibiae with small teeth (typical of Cryptocheilinae), the cleft claws in the female (which are never cleft in the Psammocharinae in the female), and the character of the pronotum which is very short, with a small transverse ridge about the middle, as well as the before mentioned transverse sulcus on second ventrite. Mr. Banks in his description of the genus says there is no sulcus, and in some of the species it is almost absent.

The following characters summarize the characters of this genus.

First abdominal segment, while hardly petiolate yet has that indication, as it is considerably smaller at base than at apex, expanding, with the sides straight; second ventrite in some species clearly with a transverse sulcus at basal half or third; hind tibiae with a narrow dorsal ridge which has faint teeth, and longer spines on the sides; a row of spines on the middle of ventral surface of last joint of all tarsi, but without spines on the sides; claws of all the legs cleft in female, the outer ray narrow and sharp at point, the inner ray slightly shorter and two or three times as wide as the outer ray, with its tip blunt, obliquely truncate, while in the male the claw of the last leg is not cleft but with a tooth; labial palpi slender; first joint of antenna large, antenna located well above clypeus, long and slender, smaller at apex; no pocket in third discoidal cell, marginal cell very long and very narrow; third cubital cell wide open on the marginal vein; wings either banded over the basal veins and the cubital cells or very dark colored; eyes slightly closer to each other on vertex than at base of clypeus, large and with posterior orbits very narrow; when seen from the side, no part of vertex or ocellar triangle shows above surface of eyes; when seen from in front, the ocellar triangle shows up above the surface as the space between it and the eyes is slightly sunken below eye level; pronotum very short, with hardly any dorsal surface, and a slight depression in center; mesonotum very short, about equal in length to the scutellum and postscutellum together, very hairy except the species of the subgenus *Foximia*; most of the species with sericeous markings over the body making these insects some of the most beautiful of the family; males with bristly tarsi and usually with the last ventrite long and very slender. The only species recorded from this faunal region are *P. opacifrons* (Fox), *P. admirationis* (Cameron), and *P. gloriosus* (Cresson). In studying this genus as represented in the collections of the Museum of Comparative Zoology at Harvard and at the University of Michigan, the following new species and a new variety and six other species were found.

***Priochilus formosus* var. *hondurensis* n. var.**

Holotype female: head, thorax, and legs black, abdomen entirely red; with a few upright hairs on clypeus, mentum, and mandibles and several on mesonotum, the rest of head and thorax absolutely devoid of hair; a few long hairs and fore coxae and on the inner tips of all coxae; first three and one half tergites absolutely devoid of hair and shining, with a very few hairs in one spot on sides of two species; the posterior half of tergites four and five and all of six,

with long yellowish, upright, backward-projecting hair; a few long hairs on first four ventrites, but five and six with more numerous ones; when seen from the side, the clypeus is practically flat, eyes extending from basal third of clypeus to top of vertex, with no part of the front above eye surface, eyes broad, posterior orbits very narrow, hardly one fourth as wide as eyes; clypeus truncate in front, with a wide smooth edge, longest at middle and sloping each side to eyes where it is shortest; eyes parallel for the apical three fourths, but sloping toward each other just before they reach the vertex where they are about four fifths as far apart as at the clypeus; when seen from in front, the ocellar triangle stands out above the sides which are slightly concave and are below the surface of the eyes; ocelli large, fore ocellus three fourths its diameter from the laterals, and these as far apart as their distance to the eye margin; a line from fore ocellus to antennal fossae; basal joint of antennae very large, slightly wedge shaped from front to back with the narrow edge in front, and much longer from front to back than wide; first joint hardly one half as long as third joint but about seven times as long as second which is very small, the fourth joint as long as first and ultimate joint four fifths as long as first, the ratio of lengths of these joints is 15 : 2 : 30 : 15 : 12; antennae situated slightly less than width, of basal joint above clypeus; pronotum strongly angulate behind very short with hardly any dorsal surface, with a slight sulcus in middle and with the anterior half forming a slight transverse ridge, higher than the posterior half; mesonotum slightly rounded in middle, short, about as long as scutellum and post-scutellum combined, both the latter dome shaped; propodeum one and one half times as long as mesonotum, with an evident sulcus its full length; propodeum with more than three fourths of its length as dorsal surface, but sloping slightly its whole length, more strongly so at apical fourth; wings infusate all over but more strongly so at location of bands over the basal veins and the cubital cells; second and third cubital cells of about equal width and length, the third intercubital vein curving outward at apical half so that the third cubital cell is about two times as long on cubitus as on the marginal vein; marginal cell very long, twice as long as its distance to wing tip and very narrow, five times as long as wide; first recurrent vein meets the second cubital cell at apical third and the second recurrent meets the third cubital cell at basal fifth; basal vein in fore wings slightly basad of the transverse vein; in rear wings the cubitus is considerably basad of the subdiscoidal vein; first abdominal segment with an indication of a petiole, with the sides straight; a slight groove at the

basal fourth of second ventrite; no spines on fore and hind femora but a few tiny ones on the dorsal surface of the middle one just before the tip; fore and middle tibiae well spined with several rows around the joint, the third pair of tibiae with a small ridge on the dorsal surface with very fine teeth, with two rows of longer spines on outer surface and with much smaller ones on inner surface; all the tibiae with a bunch of long spines at dorsal tip, but extending around the sides a short distance, these spines at tip becoming decreasingly smaller from first to last pair of tibiae; tarsi well spined, the tarsi of first pair lost; the last two pair of tarsi with a row of long spines in middle of ventral surface of last joint, and presumably the first pair similar since this is true of the other species of the genus; claws cleft, the outer ray slightly longer than the inner and sharply pointed and narrow, the inner ray at least two to three times as broad as the outer one and the tip blunt, obliquely truncate, and as above the fore pair presumably have cleft claws as the other species of the genus, third joint of posterior tarsi not quite twice as long as the last two joints which are subequal; longer spur of posterior tibiae as long as its metatarsal joint.

Length: Head 2.6 mm, thorax 5.4 mm, abdomen 8.6 mm, fore wing 11.9 mm, rear wing 8.6 mm.

This species is typical of the genus, by virtue of its hairy, large basal joint of the antenna, which is situated well above clypeus, spines in middle of ventral surface of the last tarsal joint, cleft claws, short pronotum, first segment of abdomen slightly petiolate, with straight sides, and slight groove on second ventrite.

Banks considered this specimen very close to *formosus*, but noted that it was not the same species. It differs in having the base of abdomen with only the faintest trace of black, whereas *formosus* has a definite black base, and in the color of wings which do not have a cloud over the cubital and marginal cells as in *formosus*, but the wing is of an even deep brown color throughout.

Holotype female: Lancetilla, Honduras, X-31-32, Stademann (MCZ).

Priochilus hinei n. sp.

Holotype female: completely black, except for slight silvery pubescence on sides of tergites two and three, ventrites two and three, a spot just above the base of middle coxae, dorsal and ventral surfaces of coxae, and on the middle of mesosternum; when seen from the side, the clypeus slightly arched, eyes extending from base of clypeus to top of vertex, a slight length of clypeus below the tips of eyes;

eyes broad, posterior orbits almost invisible and the front at antennal fossae just visible above the eyes; clypeus truncate with a broad smooth edge in front; ocellar triangle just barely above the vertex, when seen from in front, the surface between eyes and ocellar triangle slightly below eye level; anterior ocellus its diameter from the laterals, and these one half as far apart as their distance to eye margin; a line extending just about half way from antennal fossae to the fore ocellus; eyes closer together on vertex than at base of clypeus; antennae placed well above clypeus; first joint of antenna, large, broad and flat in front; first four antennal joints with the ratio of their length as 50:20:80:60; pronotum very short with hardly any dorsal surface and a slight emargination in the center; mesonotum about equal in length to the scutellum and post-scutellum; propodeum with about three fourths of its length as dorsal surface, with a small silvery spot at posterior outer corners, and with a slight sulcus its full length; abdomen chunky, second ventrite with a slight transverse groove at basal third; apices of fourth and fifth tergites and all of the sixth with long hairs, these rather stiff and with the appearance of the genus *Anoplus*, the pygidial surface with finer pubescence under the stiff hairs; a few long scattered hairs over ventral surface of abdomen but the most on the last ventrite; only a few long hairs on vertex and clypeus, but more numerous ones on mentum and mandibles, no long hairs on thorax except for a very few on mesonotum; fore wings with two strong bands, one starting at basal veins and covering one third of length of first discoidal cell, and three fourths of the second discoidal cell, the other band covering the marginal cell, apex of the first and all of the second and third cubital cells and outer half of the third discoidal cell, the rest of wing slightly brownish; first recurrent vein meets the second cubital cell slightly beyond the middle, the second recurrent meets the third cubital cell at the basal third; basal vein basad of the transverse vein in fore wings and the cubitus and subdiscoidal veins in rear wing almost interstitial; no spines on femora and only three small ones on the ventral surface of fore tibiae, but four fairly long ones on dorsal apex of fore tibiae; second and third pair of tibiae well spined, the third pair with a ridge on dorsal surface which has fine teeth with longer spines on the side; last two pair of metatarsal joints more heavily spined than the first; a row of spines in middle of ventral surface of the last tarsal joint, with none on the sides; third and fifth joint of fore tarsi about equal in length, twice as long as the fourth; third joint of posterior tarsi longer than the fifth, which is slightly longer than the fourth; all claws cleft about as in preceding species.

Length: Head 1.35 mm, thorax 4.3 mm, abdomen 4.6 (partly telescoped), fore wing 8.6 mm, rear wing 7.0 mm.

Holotype female: Los Amates, Guatemala, III-18-05, Jas. S. Hine (MCZ).

Priochilus Banks.

Priochilus Banks, Psyche, L, 1943, p. 82. (o.d. Genotype—*Pompilus nobilis* Fabricius)

Priochilus Banks, Bull. Mus. Comp. Zool., XCIV, 1944, p. 18.

Priochilus Bradley, Notulae Naturae, Acad. Nat. Sci., Phila., 145, 1944, p. 5. (desc. questions position in *Cryptocheilinae*)

Foximia Banks, Bull. Mus. Comp. Zool., XCVI, 1946, p. 510. (new subgenus of *Priochilus*)

***Priochilus admirationis* (Cameron).**

Pompilus admirationis Cameron Biol. Centr. -Amer. Hymen., II, 1893, p. 111. Female. (o.d. Panama. Type?)

This species as noted above was described in the female only. From its description this species should belong in this genus, as the claws are given as partly cleft, which is characteristic of only one other genus in this subfamily, the marginal cell as long and narrow, the third cubital cell as widely open on the marginal vein, the recurrent veins meeting their respective cells as is usual with the genus, the propodeum with a sulcus on the apical half, and the apical tergite with long hair as in the other species. The posterior femora and coxae are noted as red in color, the wings fuscus, violaceous.

***Priochilus amabilis* Banks.**

Priochilus (*Foximia*) *amabilis* Banks, Bull. Mus. Comp. Zool., XCVI, 1946, p. 515. Male, female (o.d. Ecuador. MCZ)

There is one female in the University of Michigan collection, collected by Dr. T. H. Hubbell, in Honduras. I have not seen the male. Front legs all black, the coxae and femora of the last two pair of legs red, except the tips of femora; no trace of silver on body; small spines on the last tibiae; basal vein slightly basad of the transverse vein in the fore wings and the subdiscoidal in rear wings far beyond the cubitus; the first recurrent vein received by the second cubital cell beyond the middle, and the second recurrent is received by the third cubital cell at the basal fourth; no comb spines on fore legs as is true of rest of species; eyes closer together at vertex than at the clypeus; fore ocellus one half its diameter from the laterals and these about as far apart as their distance to eye margin; no

striations on propodeum. *Admirationis* has only the posterior femora and coxae red, while this species has these parts red on the last two pair; the basal vein in this species is based on the transverse, while in *admirationis* it is interstitial with the transverse.

Priochilus gloriosus (Cresson).

Pompilus gloriosus Cresson, Proc. Boston Soc. Nat. Hist., 12, 1869, p. 368. Female. (o.d. Mexico. Amer. Ent. Soc.)

Pompilus gloriosus Cameron, Biol. Centr.—Amer. Hymen., 2, 1893, p. 201. Female. (Guatemala, Panama)

Priochilus gloriosus Bradley, Notulae Naturae, Acad. Nat. Sci. Phila., 145, 1944, p. 6.

This is a very beautiful species with brilliant silvery pubescence and bimaculate wings. Wings banded with a broad band over the basal veins, and one over the cubital cells, the rest of the wing hyaline; beautiful silvery pubescence on the sides of tergites, two and three, on the face, posterior orbits, a band above the middle coxae, all the coxae, sides of pronotum and both base and apex of propodeum; small spines on last tibiae; third cubital cell longer than the second cubital, about as long on the marginal vein as on the cubitus; first recurrent vein meets the second cubital cell at apical third; the second recurrent vein meets the third cubital cell at basal fourth; basal vein interstitial with the transverse vein in fore wings, and in the rear wings the subdiscoidal vein is slightly beyond the cubitus; first antennal joint is silvery and smaller than third, only about one third as long as the third joint; no striations on the propodeum; a dorsal sulcus on propodeum. The basal band of wings ends just about at the veins basally and extends outward toward the wing tip, this band is farther from base of wing than in most of the other species.

Priochilus nobilis (Fabricius).

Sphex nobilis Fabricius, Mant. insect, I, 1787, p. 277, no. 59. (o.d.)

Sphex nobilis Gmelin, in Linne Syst. Nat. ed., 13^a, I, 1790, p. 2733, no. 79.

Sphex nobilis Fabricius, Entom. System, II, 1793, p. 218, no. 85.

Pompilus nobilis Fabricius, Syst. Piez., 1804, p. 199, no. 58.

Pompilus nobilis Lepeletier, Encyl. method Insect, 1825, p. 175, no. 5. Female.

Pompilus nobilis Dahlbom, Hymen. Europ., I, 1843, p. 47. Male.

Agenia nobilis Dahlbom, Hymen. Europ., I, 1845, p. 454, no. 1. Male.

Anoplius nobilis Lepeletier, Hist. Nat. Insect, Hymen., III, 1845, p. 449, no. 12. Female.

Pseudagenia nobilis Kohl, Verh. zool. bot. Ges. Wien, XXXIV, 1884, p. 42.

One female is in the MCZ collection from Rio Punte in the Antilles. This species can be separated from all other species of the genus, except *sericeifrons* (Fox) by the transversely striated propodeum, and from all others by the large silvery spots on tergites two and three. It can also be distinguished from *sericeifrons* by the fact that the basal half of the propodeum is transversely striated, while in *sericeifrons* the apical half is striated, and by the beautiful golden pubescence on the head and yellow under side of antennae of *sericeifrons*. The wings are banded. Banks lists *Pompilus cosmoptyx* and *P. multifasciatus* as synonyms of this species.

Priochilus opacifrons (Fox).

Pompilus opacifrons Fox, Trans. Amer. Ent. Soc., XVIII, 1891, p. 340. Female. (o.d. Jamaica. Amer. Ent. Soc.)

Priochilus (*Foxinia*) *opacifrons* Banks, Bull. Mus. Comp. Zool., XCVI, 1946, pp. 512, 518. (key. S.A.)

This species is known in the female only. There is no silvery pubescence on body, and the wings are fumose all over in addition to the bands. This species is the smallest of the genus, size as given in key.

Priochilus regius (Fabricius).

Pompilus regius Fabricius, Syst. Piez., 1804, p. 199, no. 59. (o.d. Amer. mer. Type?)

Anoplius regius Lepeletier, Hist. Nat. Insect, Hymen, III, 1845, p. 450, no. 14.

Pompilus regius Taschenberg, Zeitschr. f. d. ges. Naturw., XXXIV, p. 67. Female.

Priochilus regius Banks, Bull. Mus. Comp. Zool., XCVI, 1946, pp. 510, 512, 514. Male, female. (key. S. A.)

One female in the University of Michigan Collection from Progreso, Chiriqui Prov., Panama, IV-21-23, F. M. Gaige. This is a beautiful species by virtue of the brilliant silvery pubescence on the propodeum (almost as if the segment were white), sides of thorax, clypeus, face, front, and abdominal tergites two and three. Fore wings are deep black, the rear wings are hyaline at base but brown on apical half or more. It is separated from all other species but *rhomboides* by the absence of bands on the wings and from *rhomboides* by the silvery pubescence.

Priochilus rhomboideus (Fox).

Pompilus rhomboideus Fox, Phila., Acad. 1897, p. 250. (o.d. Brazil. Amer. Ent.)

Priochilus rhomboideus Banks, Bull. Mus. Comp. Zool., XCVI, 1946, pp. 511, 513, 514. Male, female. (key. S. A.)

There is one female in the MCZ collection from Flamenco, an island in the Antilles. As noted in the preceding species this is distinguished from all other species but that one by the absence of bands on the wings and from that species by the absence of the silvery pubescence.

Priochilus sericeifrons (Fox).

Pompilus sericeifrons Fox, Phila. Acad., 1897, p. 251. (o.d. Brazil. Amer. Ent. Soc.)

Priochilus (Foximia) sericeifrons Banks, Bull. Mus. Comp. Zool., XCVI, 1946, pp. 512, 519. Female. (key. syn. *Pompilus harperi* Cameron. S. A.)

This species is known from the female only. The wings are banded. It is distinguished from all others by the beautiful golden pubescence on the head, the yellowish ventral surface of the antennae, and the transverse striations on the apical half of the propodeum.

KEY TO THE NORTH AMERICAN AND ANTILLIAN SPECIES OF
GENUS *Priochilus* BANKS

1. Wings banded. 2
Wings not banded. 7
2. Vertex, head, clypeus, and front covered with golden, sericeous pubescence; under sides of third and fourth antennal segments with an elongate yellow spot, the under side of the rest all yellowish; sides of thorax silvery; apical half of propodeum transversely striated. *scariceifrons* (Fox)
Head without any golden pubescence in reflected light. 3
3. Dorsal half of propodeum transversely striated; abdominal tergites two and three and often with some of the following ones, with large spots which are silvery in reflected light, similar to species of the genus *Tachytes*; face posterior edge of pronotum, and thorax on sides, silvery; large size; Rio Punte. *nobilus* (Fabricius)
Propodeum not striated, and otherwise not as above. 4
4. Abdomen entirely red, no silvery pubescence. Honduras
fumosus hondurensis n. var.

- Abdomen not red, black. 5
5. Silvery pubescence on tergites two and three, face, posterior orbits, all the coxae, a band above the middle coxae, sides pronotum, and the base and apex of propodeum; first antennal joint also silvery; fore wings with two broad bands, the rest of wing hyaline; basal and transverse veins interstitial in fore wings; first joint of antennae only about one third as long as the third joint. *gloriosus* (Cresson)
 Very little or no silvery pubescence and wings at least slightly brownish where the bands do not cover them. 6
6. Silvery pubescence on sides of tergite three and a spot just above the middle coxae, and on the coxae; wings slightly brownish all over; size, length 10.25 mm, fore wing 8.6 mm. Guatemala *hinei* n. sp.
 No silvery pubescence any place on body; pronotum strongly angulate; wings fumose all over where not covered by bands; size very small, not over 7.5 mm, fore wings 6.6 mm. *opacifrons* (Fox)
7. At least some of the femora and coxae reddish. 8
 All the legs black. 9
8. Posterior femora and coxae red, rest of legs black; basal vein interstitial with the transverse vein in fore wings; wings fuscus, violaceous. *admirationis* (Cameron)
 The last two pair of coxae and femora red, except the tips of femora, and the first pair of femora may be red; basal vein basad of the transverse vein in fore wings and the subdiscoidal is far beyond the cubitus in rear wings.
amabilis (Banks)
9. Wings black; beautiful silvery spots on second and third tergites, propodeum, sides of thorax, and clypeus.
regius (Fabricius)
 Wings black; no silver whatever, but with some areas slightly lighter than others. Flamenco Island.
rhomboidcus (Fox)
- Literature references are as given in the synonymy of each species.